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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,305	07/11/2005	Reuven Avrohom Cyrulnik	CYRL 19809	9150

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KATTEN MUCHIN ROSENMAN LLP  
575 MADISON AVENUE  
NEW YORK, NY 10022-2585

EXAMINER

KAO, CHIH CHENG G

ART UNIT	PAPER NUMBER
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2882

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06/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/519,305	Applicant(s) CYRULNIK, REUVEN AVROHOM	
	Examiner Chih-Cheng Glen Kao	Art Unit 2882	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/21/04, 2/10/05, 6/30/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Upon further reconsideration, the restriction requirement, in the Action mailed on March 26, 2007, has been withdrawn by the examiner.

### ***Information Disclosure Statement***

2. The prior art references, as listed in the information disclosure statement (IDS) filed on June 30, 2005, have already been considered by the examiner as evidenced by the enclosed signed copy of the IDS filed on February 10, 2005.
3. In the information disclosure statement filed on February 10, 2005, a legible copy of "Nonthermal Effects of Microwave Radiation on Mammalian Cells: Experimental and Theoretical Results" was not found. Therefore, the information referred to therein has not been considered by the examiner.

### ***Claim Objections***

4. Claims 1-76 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and/or lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following correction(s) may obviate the objection(s): (claim 1, line 6; inserting --and-- after "microwave frequencies;"), (claim 3, line 2; replacing "entities" with --macromolecules--), (claim 6, line 3; replacing "it" with --the target macromolecule structure--), (claim 7, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 7, line 3; inserting a comma after "AIDS virus"),

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(claim 8, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 9, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 10, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 11, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 12, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 13, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 14, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 15, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 16, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 17, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 18, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 19, line 1, "system for imaging or detecting"; deleting "or detecting"), (claim 21, line 6; inserting --and-- after "microwave frequencies;"), (claim 21, line 8, "said predetermined or empirically determined"; inserting --or empirically determined-- after "at a predetermined" in line 5), (claim 22, line 2, "said screened object"; replacing "said" with --the--), (claim 23, line 2, "said screened object"; replacing "said" with --the--), (claim 26, line 9; replacing the comma with a semi-colon), (claim 28, line 10; replacing the comma with a semi-colon), (claim 48, line 2; inserting a comma after "AIDS virus"), (claim 52, line 10; replacing the comma with a semi-colon), (claim 53, line 3, "the spine"; replacing "the" with --a--), (claim 58, line 3, "the middle ear"; replacing "the" with --a--), (claim 64, line 2, "said one or more"; deleting "one or more"), (claim 64, line 10; replacing the comma with a semi-colon), (claim 65, line 3, "the spinal cord"; replacing "the" with --a--), (claim 66, line 3; replacing "macromolocules" with --macromolecules--), (claim 76, line 6; inserting --and-- after

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“microwave frequencies;”), (claim 76, line 12, “the absorbing entity”; replacing “the” with --an--), and (claim 76, last line; replacing “it” with --the target macromolecular structure--).

Claims 2-20, 22-25, 27, 29-51, 53-63, and 65-75 are objected to by virtue of their dependency. For purposes of examination, the claims have been treated as such. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 11, 13, 27, 34, 39, 61, 63, and 74 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Regarding claim 11, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38

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(Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 11 recites the broad recitation "corona viruses", and the claim also recites "including those that produce severe acute respiratory syndrome (SARS) and/or respiratory syncytial virus" which is the narrower statement of the range/limitation.

7. Regarding claim 13, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. In the present instance, claim 13 recites the broad recitation "viruses causing encephalitis and/or meningitis", and the claim also recites "including arthropod borne viruses" which is the narrower statement of the range/limitation.

8. The term "clean" in claim 27 is a relative term which renders the claim indefinite. The term "clean" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

9. Regarding claim 27, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. In the present instance, claim 27 recites the broad recitation "pathogens in

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media”, and the claim also recites “including blood and blood products for transfusion” which is the narrower statement of the range/limitation.

10. Regarding claim 34, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

11. Regarding claim 39 the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

12. Regarding claim 61, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

13. Regarding claim 61, the phrase "e.g." renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

14. Regarding claim 63, the phrase "as seen in such conditions as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

15. Regarding claim 74, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. In the present instance, claim 74 recites the broad recitation “cells in the brain”, and the claim also recites “particularly the prefrontal area” which is the narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1-76 are rejected under 35 U.S.C. 102(b) as being anticipated by Cyrulnik (US 5044006).

17. Regarding claims 1 and 21, Cyrulnik discloses a system comprising means for generating a low level diagnostic x-ray beam (col. 8, lines 40-43) and amplitude modulation means operative with said generating means for providing amplitude modulation of the x-ray beam at a predetermined or empirically determined microwave frequency or range of sequential microwave frequencies (abstract and col. 11, lines 16-20).

Note that recitations (i.e., detecting and imaging macromolecule structures which absorb said amplitude modulated x-ray beam at said predetermined or empirically determined



microwave frequency or range of sequential frequencies) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

18. Regarding claim 2, recitations (i.e., wherein said detecting further comprises direct comparison with known frequencies of absorption of known target macromolecules) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

19. Regarding claim 26, recitations (i.e., detecting said macromolecule structures which absorb said amplitude modulated x-ray beam at said predetermined or empirically determined microwave frequency or range of sequential frequencies, and applying a high level modulated x-ray beam at said predetermined or empirically determined microwave frequency or range of sequential frequencies to destroy said target macromolecule structure) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

20. Regarding claim 28, Cyrulnik further discloses a CT scanner (col. 3, lines 7-11).

Also note that recitations (i.e., applying said modulated CT source to said target macromolecule structures to destroy said pathological condition) with respect to the manner in

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which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

21. Regarding claim 30, recitations (i.e., “wherein said treating comprises selective destruction of viruses”) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

22. Regarding claim 52, recitations (i.e., applying said modulated CT source to said target macromolecule structures to modify said target object) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

23. Regarding claim 63, recitations (i.e., “controlling cellular receptors” and “said control consisting of elimination of a target object comprising one or more target macromolecule structures”) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

24. Regarding claim 64, recitations (i.e., applying said modulated CT source to said target macromolecule structures to regenerate cells and tissues) with respect to the manner in which a

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claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

25. Regarding claims 65-75, recitations (i.e., said regeneration focusing on specific target macromolecule structures...) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

26. Regarding claim 76, recitations (i.e., detecting and/or imaging macromolecule structures which absorb said amplitude modulated x-ray beam at said predetermined or empirically determined microwave frequency or range of sequential frequencies, said predetermined or empirically determined microwave frequency or range of sequential frequencies determined by any of: absorption by irradiating DNA, RNA or protein microarrays, use of computed tomography to image an absorbing entity containing or comprising said macromolecular structure, or varying the frequency of modulation to determine those frequencies that are uniquely absorbed by the target macromolecular structure or entity containing or comprising the target macromolecular structure) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from prior art if the prior art teaches all the structural limitations of the claim. See MPEP 2114.

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27. Regarding claims 3-20, 22-25, 27, 29-51, 53-63, and 65-75, the inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. See MPEP 2115. Therefore, these recitations have not been given patentable weight.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Chih-Cheng Glen Kao  
Primary Examiner  
Art Unit 2882